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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/607,250	06/27/2003	Yusuke Nakazawa	003510-143	4923
23373	7590	05/12/2004	EXAMINER	
SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			EICKHOLT, EUGENE H	
			ART UNIT	PAPER NUMBER
			2854	

DATE MAILED: 05/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/607,250	Applicant(s) NAKAZAWA ET AL.	
	Examiner Eugene H Eickholt	Art Unit 2854	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-10 and 12-18 is/are rejected.
- 7) ☒ Claim(s) 2 and 11 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |  |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>6-27-03</u> . | 6) <input type="checkbox"/> Other: ____  |

Claims 1, 3, 10 and 12 are rejected under 35 U.S.C. 102(e) as being anticipated by Abe et al.

Ink jet heads 119-126 move horizontally along rod 114 on a carriage 116. See col. 9, lines 41-46. Image data is used to cause the ink jets to print. See col. 9, line 18 and col. 10 lines 20-21. Recording medium 101 is held on a transport belt 118 as recited in claim 3 to cause it to move in a longitudinal direction A. See col. 9, lines 34-40. Optional sensor 134 detects position of an invisible color dye yarn woven into the recording medium 101. This reads on the position detector component which controls the laterally or forward backward scanning positions of the print heads. See fig. 3 recording medium and print head scanning directions. See also col. 11, lines 55-65.

See all of col. 12, particularly the generation of corrected tile pixel positions disclosed at lines 41-51.

The same analysis is applied to the rejection of the method claims 10 and 12 as the limitations are parallel.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Abe in view of Carley.

Abe does not disclose the type of ink used. Oil-based inks are commonly used in the jet printing art as evidenced by Carley. See col. 4, line 5-8 who states oils are used

as vehicles for inks. It would have been obvious to use oil-based inks with Abe. Motivation would have been the explicit teaching in Carley that use of a suitable vehicle for ink makes it possible to produce a thousand time more flow through a hot capillary. See col. 4, lines 60-63. See also col. 5, lines 10-15. Claim 6 calls for use of an electrostatic field. Carley teaches this at col. 7, lines 37-40. It would have been obvious to also use an electrostatic field with the Abe ink jet system. Motivation is found explicitly col. 7, lines 22-25 of Carley to produce a smoother transfer of ink.

Claims 4, 7-9, 13, and 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Abe in view of Takanaka.

Abe moves his ink heads only in a main and reverse scan fashion. Takanaka teaches moving the print head in a direction, relative to the recording medium, perpendicular to a direction of the main scanning operation. See col. 4, lines 10-19. Regarding claims 7-9, Abe does not teach how to handle a faulty ink jet. Takanaka in the abstract refers to correcting an abnormality in the recording element. Takanaka has a plurality of laterally aligned ink jets 217, 3A-13C, shown in figs. 10 and 16 as called for in claim 7. It would have been obvious to align the Abe ink heads in a similar fashion to have a multi-color capability. Takanaka, in col. 11, lines 6-13 refers to detecting an abnormality such as a nozzle incapable of ink discharge, which reads on claim 9. Nozzles of Takanaka function as complimentary nozzles printing in the subscan direction to correct the defect as recited in claims 7-8. See col. 11, lines 27-33. The claim 7 interpolation-processing component is described as evaluating which nozzles to be used as the complimentary nozzle based on service life. See col. 11, lines 45-56. It

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would have been obvious to modify Abe to use the Takanaka embodiment one system. Motivation would have been the explicit teaching of Tanakaka of how to correct for printing nozzle caused printing abnormalities.

The same analysis is applied against the rejections of method claims 13 and 16-18 as their limitations are parallel.


Claims 5 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Abe in view of .Ogasawara et al

Abe does not disclose his print heads 119-133 are full line print heads. Ogasawara et al teaches the print heads 201 may be full line. See fig. 22 and col. 26, lines 50-52. Figure 22 clearly shows scanning movement laterally for these print heads. It would have been obvious to have the Abe scanning print heads also full line to enable all the record medium area to be printed one.

Claims 2 and 11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

A shortened statutory period of 3 months is set to respond.

  
EUGENE H. EICKHOLT  
PRIMARY EXAMINER

Any inquiry concerning the specifics of this communication should be directed to Examiner Eickholt, who can be reached Tuesday through Thursday. Inquiries of a general nature should be directed to the TC2800 receptionist.

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